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Attention Deficit Hyperactivity Disorder (Adhd) in Adults: A Minireview

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Abstract

Attention Deficit Hyperactivity Disorder (ADHD) is not exclusively limited to childhood and adolescence, but it often persists in adults, where its prevalence in the general population is estimated at around 4% to 5%. It is accompanied by significant psychological, social and professionals. It is essential to ensure the detection of this disorder in adults. Indeed, psychostimulants have demonstrated therapeutic efficacy by numerous controlled studies. ADHD treatment should have the primary objective of improving attentional abilities and reducing impulsive behavior.

Keywords: Attention Deficit Hyperactivity Disorder, Dopamine, Methylphenidate, Psychostimulants

Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is one of the disorders most common neurobehavioral. ADHD is a chronic condition that begins during childhood and whose global prevalence rate is estimated at 5% in children and adolescents and 3% in adults ADHD symptoms often persist until adolescence or adulthood, and even into old age [1, 2]. This is what has been confirmed in long-term follow-up studies that demonstrated persistence of symptoms in many adults diagnosed with ADHD in childhood. A meta-analysis of ADHD follow-up studies found that in 15% of cases, the initial diagnosis is maintained until adulthood and that nearly 75% of patients continue to be struggling with significant ADHD-related deficits in adulthood [3]. More recently a review paper confirms these data [4].

ADHD is characterized by symptoms of inattention and/or hyperactivity-impulsivity that disrupt the functioning or development of the patient in several spheres of his life (school, professional and social) [5]. Children with ADHD can present significant adaptation problems because their functional level and their behavior do not necessarily correspond to their chronological age and expected level of development [6].

ADHD, long considered exclusively limited to childhood and adolescence, often persists into adulthood in more or less severe clinical forms. This point has been well established by several prospective studies, as well as by epidemiological studies conducted in the general population. Kessler et al., adopting restrictive criteria for defining the disorder (appearance of symptoms before the age of seven), estimated the prevalence of ADHD in adults (in children and adolescents, a recent analysis gives a prevalence of 5.29%) [7-9]. This study also confirmed the importance of comorbidity in adults with ADHD and indicated that the majority of subjects meeting this diagnosis were not being treated for this disorder. The study by Fayyad et al., conducted under the aegis of the World Health Organization (WHO) in ten countries, gives an average prevalence of ADHD in adults of 3.4% [10].

Diagnosis

Medical History

The diagnosis of ADHD must be made according to clinical criteria and requires a complete medical evaluation of the patient to identify specific symptoms [11]. The presence of symptoms is reported by the patient himself (child or adult), his parents, other members of his family or his spouse, as well as by teachers or co-workers. ADHD diagnostic criteria set out in the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, 5th Edition, 2013) and defined by the American Psychiatric Association are the most widely used. They describe the three subtypes of ADHD according to the predominant symptom picture, i.e., the inattentive type, the hyperactive-impulsive type and the mixed type. In the International Classification of Diseases (ICD-10) established by the World Organization of Health (WHO), the criteria defining the hyperkinetic disorder are more moderate and characterize a subset of individuals with severe ADHD type mixed.

The fundamental characteristic of ADHD is the persistent manifestation of an inattention and/or hyperactivity-impulsivity disrupting functioning and patient development [12]. The requirement that multiple symptoms must have been present before the age of 12 underlines the importance of a complete clinical picture during childhood. Manifestations of the disease must also take place in different environments (e.g., home, school, work) [13]. It is however essential that the symptoms do not occur exclusively during a schizophrenia or other psychotic disorder and they are not better explained by another mental disorder (e.g., mood disorder, anxiety disorder, dissociative disorder, personality disorder, or substance intoxication or withdrawal).

A Diagnosis that is Sometimes Difficult in Adults

The clinical, epidemiological and etiopathogenic data make it possible to support that ADHD in adults constitutes a nosological entity in its own right. It is therefore, in presence of warning signs, to diagnose this disorder, especially since there are effective drugs, capable of to significantly reduce the symptoms [14]. However, due to comorbidity, this diagnosis is sometimes difficult to put down. In fact, nearly 80% of adults with ADHD have at least one other psychiatric disorder, and sometimes several. The existence of an anxiety disorder, a mood disorder (major depression, dysthymia, bipolar disorder), a personality disorder (antisocial personality, borderline personality), addiction to alcohol or drugs complicate the diagnostic process. Smoking is very common, as well as sleep disturbances, sometimes in the form of sleep syndrome restless legs [15].

The link between ADHD and bipolar disorder in particular, as well as the resulting diagnostic difficulties, has many aspects. ADHD evolves chronically, while bipolar disorder is characterized by successive episodes. In practice, for ADHD, behavioral fluctuations tend to occur within the same day; in bipolar disorder, these fluctuations will preferably constitute two or three episodes within a single week. While self-esteem is diminished in ADHD, a tendency to megalomania characterizes the bipolar patient [16].

Drug Treatment for ADHD

It aims to reduce the most debilitating symptoms: distractibility, difficulty sustaining attention, tendency to impulsiveness, forgetfulness, disorganization. Other symptomatic manifestations, such as mood instability and/or the inability to control certain emotions (outbursts of rage and anger) may also benefit from treatment. pharmacological treatment.

Psychostimulants

Methylphenidate is the best-known psychostimulant and the most frequently prescribed for the treatment of ADHD, both in children and adults [17]. Other's psychostimulants have demonstrated their effectiveness: dextromehylphenidate, amphetamines, dextroamphetamines and mixtures of amphetamine salts. In the United States, the Food and Drug Administration (FDA) has officially recognized dextromethyl phenidate and the mixture of amphetamine salts for the treatment of ADHD in adults [18]. In general, these psychostimulants exert their action by blocking the presynaptic reuptake of the dopamine and norepinephrine; recent work reveals that at low doses, they markedly increase the release of catecholamines in the prefrontal cortex [19]. At the peripheral level, they mainly exert a vasoconstrictor action and may cause a moderate increase in blood pressure and heart rate. heart disease [20]. Clinical studies conducted in adults demonstrate their effectiveness in the treatment of ADHD; that of methylphenidate is also marked on attention disorders than on symptoms of hyperactivity-impulsivity.

The development of tolerance seems rare, but the question of long-term safety remains open. As to the risk of addiction, often dreaded, it appears, because of certain pharmacokinetic particularities, extremely reduced with methylphenidate, insofar as its use complies with the prescriptions: administration per os, at recommended doses (not more than 1 mg/kg) [21].

Cardiovascular diseases, severe uncontrolled arterial hypertension, arrhythmias, severe angina pectoris, glaucoma and hyperthyroidism represent the main contraindications of psychostimulants [22]. Special caution is required in case of motor tics or illness of Gilles de la Tourette, but also in the presence of significant anxiety or any other psychiatric disorder that the introduction of a psychostimulant could worsen [23]. In case of drug dependence, the treatment of ADHD by methylphenidate is often complicated and less effective. Some studies performed in subjects dependent on cocaine or under methadone treatment are however encouraging, indicating an improvement in the symptoms of ADHD, as well as a reduction in cravings for substances.

Other Psychotropics

Atomoxetine has been approved by the FDA for the treatment of ADHD in adults and its therapeutic effect has been demonstrated in several controlled studies [24]. It selectively inhibits the presynaptic reuptake of norepinephrine. Bupropion, both antidepressant and psychostimulant, inhibits neuronal reuptake of dopamine and norepinephrine; controlled studies have no demonstrated its efficacy in the treatment of ADHD, but it would be an option, if too much side effects linked to methylphenidate [25]. The efficacy of selective reuptake inhibitors of serotonin is not established in the treatment of ADHD. Antidepressants can usually be combined with methylphenidate. Modafinil has been shown to be effective and superior to placebo. Its mechanism of action remains poorly understood; it does not appear to directly alter dopamine release or of norepinephrine but it would decrease the neurotransmission GABAergic [26]. Clonidine and guanfacine are agonists of alpha2a-adrenergic receptors that modulate activity presynaptic and postsynaptic noradrenergic. They are sometimes used when the other substances have proven ineffective in ADHD [27].

Non-Drug Treatment of ADHD

If ADHD can be considered as a neuropsychiatric disorder, linked to a disturbance of mechanisms neurobiological agents providing functions of inhibition and self-regulation, however drug treatment does not always succeed in fully correcting the symptomatology and often leaves troublesome residual symptoms. In addition, the chronicity of the disorders leads to the development of cognitive biases and inadequate coping strategies.

Cognitive-behavioral approaches have recently been developed, some of which have been the subject of controlled studies The control studies show their poor efficacy in ADHD [28]. Combined with drug treatment, this approach has been shown to be beneficial.

Furthermore, the role of psychoeducation is primordial; this must be associated with any treatment. He is to explain to the patient the nature of ADHD, to fix with him the objectives of drug treatment, define the expected benefits and possible side effects, reassure him about certain fears (dependence development on the psychostimulant), to help him develop appropriate behavioral strategies, etc. [29].

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